



Serial No. 09/755,501
Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA-31 - 072602
PROTEINS AND FRAGMENTS"

GAATTCCGGCACGAGGTTTTTTTTTTCCCCTTTTCTTTCTTTCTTTGCC
1 -----+-----+-----+-----+-----+-----+-----+ 60

ATCCGAAAGAGCTGTCAGCCGCCGGCTGCACCTAAAGGCGTCGGTAGGGGATAAC
61 -----+-----+-----+-----+-----+-----+-----+ 120

AGTCAGAGACCCCTCCTGAAAGCAGGAGACGGTACCCCTCCGGCTTGCGGGCGG
121 -----+-----+-----+-----+-----+-----+-----+ 180

CTGCGGCCCTCCGTTCTTCCCCCTCCCCGAGAGACACTCTCCTTCCCCCACGAAG
181 -----+-----+-----+-----+-----+-----+-----+ 240

ACACAGGGGCAGGAACCGCAGCGCTGCCCTCGCCATGGGAGGCCGCTCCTGCTGACG
241 -----+-----+-----+-----+-----+-----+-----+ 300

CTCGCCCTCCTCTCGCGCTGCTGTGCCGCTGCCAGGTTGACGGCTCCGGGTGTTGAG
301 -----+-----+-----+-----+-----+-----+-----+ 360

CTGAAGCTGCAGGAGTTGTCAACAAGAAGGGCTGCTCAGCAACCGCAACTGCTGCCGG
361 -----+-----+-----+-----+-----+-----+-----+ 420

GGGGCGGCCCGAGGCGCCGGCAGCAGCAGTGCAGTGCAGACCTTCTCGCGTC
421 -----+-----+-----+-----+-----+-----+-----+ 480

TGCCTGAAGCACTACCAGGCCAGCGTCTCCCCGAGGCCCTGCACCTACGGCAGCGCC
481 -----+-----+-----+-----+-----+-----+-----+ 540

ATCACCCCCGTCCTCGCGCCAACTCCTCAGCGTCCCCGACGGCGGGCGGCCGAC
541 -----+-----+-----+-----+-----+-----+-----+ 600

CCCGCCTTCAGCAACCCATCGCTTCCCTCGGCTTCACCTGGCCGGCACCTCTCG
601 -----+-----+-----+-----+-----+-----+-----+ 660

CTCATCATCGAGGCTCTGCACACCGACTCCCCGACGACCTCACACAGAAAACCCGAG
661 -----+-----+-----+-----+-----+-----+-----+ 720

CGCCTCATCAGCCGCTGGCCACCCAGAGGCACCTGGCGTGGCGAGGAGTGGTCCCAG
721 -----+-----+-----+-----+-----+-----+-----+ 780

GACCTGCACAGCAGCGGCCGACCGACCTCAAGTACTCCTATCGCTTGTGTGATGAG
781 -----+-----+-----+-----+-----+-----+-----+ 840

FIG. 1A1



Serial No.: 09/100,501
Inventor(s): ISH-HOROWICZ ET AL.
Title: "ANTIBODIES TO VERTEBRATE DELTA PROTEINS AND FRAGMENTS"

CACTACTACGGGAAGGCTGCTCTGCTTCTGCCGGCCCCGTGACGACCGCTTCGGTCAC 900
841 -----+-----+-----+-----+-----+-----+-----+-----+
TTCACCTGTGGAGAGCGTGGCGAGAAGGTCTGCAACCCAGGCTGGAAGGGCCAGTACTGC 960
901 -----+-----+-----+-----+-----+-----+-----+-----+
ACTGAGCCGATTGCTTGCCTGGGTGTGACGAGCAGCACGGCTCTGCGACAAACCTGGG 1020
961 -----+-----+-----+-----+-----+-----+-----+-----+
GAATGCAAGTGCAGAGTGGTTGGCAGGGCGGTACTGTGACGAGTGCATCCGATAACCA 1080
1021 -----+-----+-----+-----+-----+-----+-----+-----+
GGCTGCCTGCACGGTACCTGTCAGCAGCCATGGCAGTGCAACTGCCAGGAAGGCTGGGGC 1140
1081 -----+-----+-----+-----+-----+-----+-----+-----+
GGCCTTTCTGCAACCAGGACCTGAACTAACACTGCACTCACACAAAGCCATGCAAGAATGGT 1200
1141 -----+-----+-----+-----+-----+-----+-----+-----+
CGGTGTACGTGGTTGTGGCCAGTCCCCTGATGTGAACAAGAACGGCTGGACCCATGTGT 1260
1201 -----+-----+-----+-----+-----+-----+-----+-----+
GGCTCCAGCTGCGAGATTGAAATCAACGAATGTGATGCCAACCTTGCAAGAATGGTGG 1320
1261 -----+-----+-----+-----+-----+-----+-----+-----+
AGCTGCACGGATCTCGAGAACAGCTATTCTGTACCTGCCCCCCAGGCTTCTATGGTAAA 1380
1321 -----+-----+-----+-----+-----+-----+-----+-----+
AACTGTGAGCTGAGTGCAATGACTTGTGCTGATGGACCGTGCTTAATGGAGGGCGATGC 1440
1381 -----+-----+-----+-----+-----+-----+-----+-----+
ACTGACAACCCGTGGATACAGCTGCCGCTGCCACTGGTTATTCTGGTTAAC 1500
1441 -----+-----+-----+-----+-----+-----+-----+-----+
TGTGAAAAGAAAATCGATTACTGCAGTCCAGCCCTGTGCTAATGGAGCCAGTGCCTT 1560
1501 -----+-----+-----+-----+-----+-----+-----+-----+
GACCTGGGAACCTCCTACATATGCCAGTGCCAGGCTGGCTTACTGGCAGGCACTGTGAC 1620
1561 -----+-----+-----+-----+-----+-----+-----+-----+
GACAACGTGGACGATTGCGCCTCTCCCTGCGTCAATGGAGGGACCTGTCAGGATGGG 1680
1621 -----+-----+-----+-----+-----+-----+-----+-----+

FIG. 1A2



Serial No. 09/100,931
Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA PROTEINS AND FRAGMENTS"

GTCAACGACTACTCCTGCACCTGCCCGGGATACAACGGGAAGAACTGCAGCACGCCG
1681 -----+-----+-----+-----+-----+-----+-----+ 1740

GTGAGCAGATGCGAGCACAACCCCTGCCACAATGGGGCACCTGCCACGAGAGAAC
1741 -----+-----+-----+-----+-----+-----+-----+ 1800

CGCTACGTGTGCGAGTGCCTCGGGCTACGGCGGCCACTGCCAGTTCTGCTCCCC
1801 -----+-----+-----+-----+-----+-----+-----+ 1860

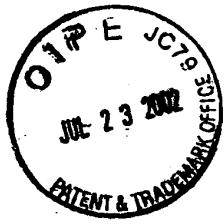
GAGCCACCTCAGGGGCCGGTCATCGTTACTTCACCGAGAAGTACACAGAGGGCCAGAAC
1861 -----+-----+-----+-----+-----+-----+-----+ 1920

AGCCAGTTCCCTGGATCGCAGTGTGCGCCGGATTATTCTGGTCCTCATGCTGCTGCTG
1921 -----+-----+-----+-----+-----+-----+-----+ 1980

TACCACTGGTGTACGTATCAGAAGAGAAAGATGAGTGCATCATGCAACTGAGGTG
2401 -----+-----+-----+-----+-----+-----+-----+ 2460

TAAAACAGACGTGACGTGGCAAAGCTTATCGATACCGTCATCAAGCTT
2461 -----+-----+-----+-----+-----+-----+-----+ 2508

FIG. 1A3



1 GAATTGGCACGAGGTTTTTTCCCCCTTTTCTTGTGGGATAACAGTCAGAACCCCTCTGA 69
 70 AGCTGTAGCCCCGGCTTGACCTAAAGGGCTGGTACGGGATAACAGTCAGAACCCCTCTGA 138
 139 AAGCAGGAGACGGGACGGTACCCCTCCGGCTCTGGGGCTGGGGCTGGGGCTGGGGCT 207
 208 CCCGAGAGACACTTCCCTCCCTGACGCTCGCCCTCTGGGGCTGCTGTGGCAGGGC 276
 277 ATGGGAGGCCGCTTCTGACGCTGGAGGTTGTCAACAAAGAAGGGCTGCTCAGCAAC 345
 346 TCGGGGGTGTGAGCTGAGCTGAGCTGGAGGTTGGAGCTGGAGCTGGAGCTGGAG 414
 415 TGCGGG 483
 484 CTGAAGGCACTACCAAGGCAGCGTCTCCCGAGCCGGCTGACCCCTACGGCAGGCCAT 552
 553 CTCGGGCCAACTCCCTCAGGCTCCCGAGCGGGGGGGGGGGGGGGGGGGGGGGGGGG 621
 622 CGCTTCCCCCTCGGCTTACCTGGGGACCTCTGGCTCATCGAGGCTCTGGCACAC 690
 691 CCCGACGACCTCACCAACAGAAAACCCGAGGCCCTGACAGGGGGGGGGGGGGGGGG 759
 692 GTGGGGGAGGAGTGGTCCAGGACACTGAGCAGGGGGGGGGGGGGGGGGGGGGGGGG 828
 693 CACTTCACTGTGGAGAGGGCTGGGAGAAGGGCTGCAACCCAGGGGGGGGGGGGGGG 897
 760 GTGTTGATGAGCACTACTACGGGGAGGCTGCTCTGGCTCTGGGGGGGGGGGGGG 759
 829 CACTTCACTGTGGAGAGGGCTGGGAGAAGGGCTGCAACCCAGGGGGGGGGGGGGGG 966
 898 CACTTCACTGTGGAGAGGGCTGGGAGAAGGGCTGCAACCCAGGGGGGGGGGGGGGG 1035
 967 CGGATTTGCTTGGCTGGGTGTGACGGAGCTGTGACGAGTGGCTGGGGGGGGGGGG 1104
 1036 GTGGGTTGGCAGGGGGGGGTACTGTGACGAGGCTGGGGGGGGGGGGGGGGGGGG 1173
 1105 CAGCCATGGCAGTGCACACTGCCAGGAAGGTGGGGGGGGGGGGGGGGGGGGGGGG 1242
 1174 ACTCACCAAGCCATGCAAGAAATGGTGCACCATGCAACCAACCCGGTCAAGGGGG 1311
 1243 TGCCGACCTGGTACACAGGCTCAGCTGGGGATCTGAGAACAGCTTCCCTGTTCT 1380
 1312 AATGGTGGAAAGCTGCAAGGATCTGAGAACAGCTTCCCTGTTCTGAGAACAGCT 1449
 1381 AACTGTGAGCTGAGTGAATGACTTGTGCTGATGGACGACTGGGAGGGACTGGG 1518
 1450 CCTGATGGGGATACAGCTGCCGCTGGCTGCTTAATGGGGCCAGTGCCTGGGGAACT 1587
 1519 TACTGCAGTTCCAGGCCCTGGCTGCTTAATGGGGCCAGTGCCTGGGGAACTTGC 1656
 1588 TGCCAGGCTGGCTTCACTGGCAGGCACTGGGAGGGACTGGGAGGGATACAACGGGAAG 1725
 1657 AATGGAGGGACCTGTCAGGATGGGGTCAACGACTACTCTGCACCTGGGGCCACCT 1794
 1726 AACTGCAGCACGCCGGTGGAGCATGCGAGCACAAACCCCTGCCACAATGGGGGAGA 1794

FIG. 1B1



1795 AGCAACCGCTACGTGTGGAGTGCCTGGGGCTACGGGGCCTCAACTGGCAGTTGCTCCCCGAG 1863
1864 CCACCTCAGGGCCGGTCATCGTTGACTTACCGGAAAGTACACAGGGCAGAACAGCCAGTTTCCC 1932
1933 TGGATCGCAGTGTGCGGGGATTATTCGGTCCCTCATGGCTGCTGGTGGGTTGGGCCATCGTCGTC 2001
2002 TGGCTCAGGCTGAAGGTGCGAGAAGGGACCCAGGCGGCTGAGGCTACGGAGTGAAGACGGAG 2070
2071 ACAACCTGGCAACTGCCAGGGACATCTCCATCAGCGTCACTCGGACTCAGATTAA 2139
2140 AACACAATAAGAAAGTAGACTTCAGCGATAACTCCGATAAAAACGGCTACAAAGTTAGATACCCA 2208
2209 TCAGTGGATTACAATTGGTCATGAACCTAAGAATGGGACTCTGTAAGAGGGAGCATGGCAAATGC 2277
2278 GAAGCCAAGTGTGAACGTATGATTCAAGGGCAGAAGAGAAAAGCCAGTACAGCTAAAAGTAGTGAC 2346
2347 ACTTCGAAAGAAAAGGGCCAGATTCACTGATATTCCACTTCAAAAGGACACAAAGTACCAAGTGGGACA 2415
2416 GTCATATCAGAAGAGAAAAGTAGACTGCACTAGCAACTGAGGTAGTATGCCACCTGGCAGTGGACA 2484
2485 AGTCTTGGTGTGATTCATCCAGCGCAGGTCAAGGGGGCCAAACCATCTACCTGCTGCCACAGTC 2553
2554 ATCTGTACCCAAATGAAAAACTGGCCACCTTCAGTCTGGCAGACTGCAGACGTTGAAAACATTGGTGG 2622
2623 ATTAACATAAGCTCCAGTGGGGTACAGGGACAGGAATTTCAGGGCAAGGGTATAACTGTAGTGCA 2691
2692 GTTGTAGCTTACTAACCCACTGACTCATTCAGCTGGCTTCTGAGGCCTGTTGGCTGGCA 2760
2761 TTGAGGTGAAGTCCCTGACCCCTCTGCATCTGCTCATAGTCCCTAGTCCCTAGTCCCTAGTCCCT 2829
2830 TCTGCTTGTGTTCTCAACAGGTGTAACAGACGTGACGTGGCAAAGCTT 2883

FIG. 1B2

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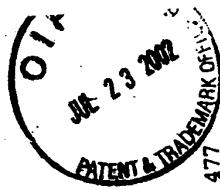
1 MGGRFLLLA LLSALLCRCQ VDGSGVFEKL LQEFVNKKGL LSNRNCRRGG GPGGAGQQQC
61 DCKTFFRVCL KHYQASVSPE PPCTYGSAIT PVLGANSFSV PDGAGGADPA FSNPIRFPFG
121 FTWPGTFSLI IEALHTDSDP DLTTENPERL ISRLATQRHL AVGEEWSQDL HSSGRTDLKY
181 SYRFVCDEHY YGEGCSVFCR PRDDRFGHFT CGERGEKVCN PGWKGQYCTE PICLPGCDEQ
241 HGFCDKPGEC KCRVGWQGRY CDECIRYPGC LHGTCQQPWQ CNCQEGWGGL FCNQDLNYCT
301 HHKPCKNGAT CTNTGQGSYT CSCRPGYTGS SCEIEINECD ANPCKNGGSC TDLENSYSCT
361 CPPGFYGKNC ELSAMTCADG PCFNGGRCTD NPDGGYSCRC PLGYSGFNCE KKIDYCSSSP
421 CANGAQCVDL GNSYICQCQA GFTGRHCDDN VDDCASFPCV NGGTCQDGVN DYSCTCPPGY
481 NGKNCSTPVS RCEHNPCHNG ATCHERSNRY VCECARGYGG LNCQFLLPEP PQGPVIVDFT
541 EKYTEGQNSQ FPWIAVCAGI ILVLMLLGC AAIIVCVRLK VQKRHHQPEA CRSETETMNN
601 LANCQREKDI SISVIGATQI KNTNKKVDFH SDNSDKNGYK VRYPSVDYNL VHELKNECSV
661 KEEHGKCEAK CETYDSEAEK KSAVQLKSSD TSERKRPDSV YSTSKDTKYQ SVYVISEEKD
721 ECIIATEV

FIG. 2



Serial No.: 09/100,301
 Inventor(s): ISH-HOROWICZ ET AL
 Title: "ANTIBODIES TO VERTEBRATE DELTA PROTEINS AND FRAGMENTS"

1 MGGRFLLTLA-LLSALLECRCOVDGGVFEKLQEVNKKGLLSNRNCRCGGGPGGAGQQC 56
 1 MGQORMLTLVLSAVERCQISCCGFLFVNKGGLLGNMNCRCGSL-ASLQRC 56
 X-Delta-1 1 - MHWIKCLLTAFICFTVIVOHSSGSEFLRKYESNDHGRDNEGRCCSGESDGA TGKCLG 59
 Delta 1 -
 C-Delta-1 61 DCKTFFRVCLKHYQASVSPPEPPCTYGSAILTPVLGANSFSVPD 121
 X-Delta-1 57 ECKTFFRICLKHYQSNSSPEPPCTYGGAVATPVLGCTNSFVPESS- 116
 X-Delta-1 60 SCKTRFRLLCILKHYQATIDTTSQCTYGDVITPTLGENSNLTD 120
 Delta 1 -
 C-Delta-1 122 TWPGTFSLLIEALHTDSPDDLTTENPERLISRLATORHLAVGE 182
 X-Delta-1 117 TWPGTFSLLIEAIAHADSDADDNTENPERLISRLATORHLAVGE 177
 Delta 1 -
 C-Delta-1 121 SWPGTFSLLIEAWH-DTNNSGNARTNKLQLLVOQVLEVS 180
 Delta 1 -
 C-Delta-1 183 RFWCDEHYYEGCSVECRPRDDRFGHFTCCGERGEKVNPGWKGQYCTEPICLPGC 243
 X-Delta-1 178 RFWCDEYYEGCSDYCRPRDDAFGHESCCGERGEKLNPGWKGQYCTEPICLPGC 238
 Delta 1 -
 C-Delta-1 244 CDKPGECKCRVQWQGRYCDECIRYPGCLHGTQOPWQCNQEGWGGLFCNQDLNYCTHHKP 299
 X-Delta-1 239 CDKPGECKCRVQWQGRYCDECIRYPGCLHGTQOPWQCNQEGWGGLFCNQDLNYCTHHKP 300
 Delta 1 -
 C-Delta-1 305 CKNGATCTNTGQGSYTCSCRPGYTCSSCEIELINECDA- 360
 X-Delta-1 300 CENGAATCTNTGQGSYTCSCRPGYTCSSCEIEVNECDA- 355
 Delta 1 301 CKNGGTCFNTGEGLYTCCKCAPGYSGD- 355
 EGF1
 C-Delta-1 361 CPPGFYGKNCELSAMTCADGPGCFNG- 416
 X-Delta-1 356 CPPGFYGKNCELSAMTCADGPGCFNG- 411
 Delta 362 CRNGWSGKMEEKVLTCSDKPCHQGICRNVRPGLGSKGQGYQCEPIGYSGPNC 422
 EGF2
 C-Delta-1 361 CPPGFYGKNCELSAMTCADGPGCFNG- 416
 X-Delta-1 356 CPPGFYGKNCELSAMTCADGPGCFNG- 411
 Delta 362 CRNGWSGKMEEKVLTCSDKPCHQGICRNVRPGLGSKGQGYQCEPIGYSGPNC 422
 EGF3
 C-Delta-1 361 CPPGFYGKNCELSAMTCADGPGCFNG- 416
 X-Delta-1 356 CPPGFYGKNCELSAMTCADGPGCFNG- 411
 Delta 362 CRNGWSGKMEEKVLTCSDKPCHQGICRNVRPGLGSKGQGYQCEPIGYSGPNC 422
 EGF5
 FIG. 3A



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C-Delta-1 417 S S P C A N G A Q C V D L G N S Y I C Q Q A G F T G R H C D D N V D D C A S F P C V N G G T C Q D G V N D Y S C T C P 477
 X-Delta-1 412 S S N P C A N G A R C E D L G N S Y I C O C Q E G F S G R N C D D N L D C T S E P C Q N G G T C D I M V N O Y R C Q C V 472
 Delta 423 S P N P C I N G G S C Q P S G K . . . C I C P S G E S G T R C E T N I D D C L G H Q C E N G G T C I D M V N O Y R C Q C V 480
 EGF7

C-Delta-1 478 P G Y N G K N C S T P V S R C E H N P C H N G A T C H E R N Y V C Q C A R G Y G G N N C O F L L E 534
 X-Delta-1 473 P G Y I G K N C S M P I T K C E H N P C H N G A T C H E R N Y V C Q C A R G Y G G N N C O F L L E 524
 Delta 481 P G F H I C T H C S S K V D L C L I R P C A N G G T C L N L N N D Y Q C T C A G F T G K D C S V D I D E C S S G P C H N G 541
 EGF8

C-Delta-1 535 564
 X-Delta-1 525 557
 Delta 542 G T C M M N R V N S F E C V C A N G F R G K Q C D E E S Y D S V T F D A H Q Y G A T T Q A R A D G L A N A Q V V I L A V F S 602
 EGF9

C-Delta-1 565 M L L G C A A I V V C V R L K V Q K R H H Q O P E A C R S E T M N N L A N C O R E K D 623
 X-Delta-1 558 M L L G C A A V V V C V R V R V Q K R R H Q O P E A C R G E S K T M N N L A N C O R E K D 616
 Delta 603 V A M P L V A V I A A C V V F C M K R K K R A Q E K D N A E A R K Q N E Q N A V A T M H H N G S A V G V A L A S A S M G 663
 TM

C-Delta-1 624 N K K V D F H S P D 677
 X-Delta-1 617 N K K I D F L S E S N N E K N G Y K P R Y P S V D Y N L V H E L K N E D S P K E E R S K C E A K C S N D S D E D V N S 723
 Delta 664 G K T G S N S G L T F D G G N P N I I K N T W D K S V N N I C A S A A A A A A A A D E C L M Y G G Y V A S V A D N 728
 EGF10

C-Delta-1 684 721
 X-Delta-1 678 784
 Delta 724 N N A N S D F C V A P L Q R A K S Q Q L N T D P T L M H R G S P A G T S A K G A S G G G P G A A E G K R I S V L G E G S 832
 Delta 785 Y C S Q R W P S L A A G V A G A C S S Q L M A A A S A A G T D G T A Q Q Q R S V V C G T P H M

FIG. 3B



Serial No. 09/103,551
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 PROTEINS AND FRAGMENTS"

C-Delta-1	184	V-CPEHYYGE	GCSSVFCRPRD	DREGHFTCGE	RGEKVCNPGW	XGQYGC	228
Delta	182	V-TCDLNYYGS	GCASFCRPRD	DSEGHSTCGE	TGEIICLTCGW	QGDYGC	226
Serrate	235	VQCAVTYYNT	TCTTCRPRD	DQFGHYYACGS	EGQKLCLNGW	QGVNC	279
C-Serrate-1		V-TCAEHYYGF	GCNKFCRPRD	DEFTTHHTCDQ	NGNKTCLEGW	TGPPEC	
APX-1	130	N1CSSNTHGK	RCNRYCIAN	AKLHWE-CST	HGVRRCSAGW	SGEDC	172
Lag-2	120	V-TCARNYFGN	RCENFCDAHL	AKAARKRCD	MGRLRCDIGW	MGPHC	166

FIG. 4



Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"
USPTO 393931 . 0722302



FIG.5A

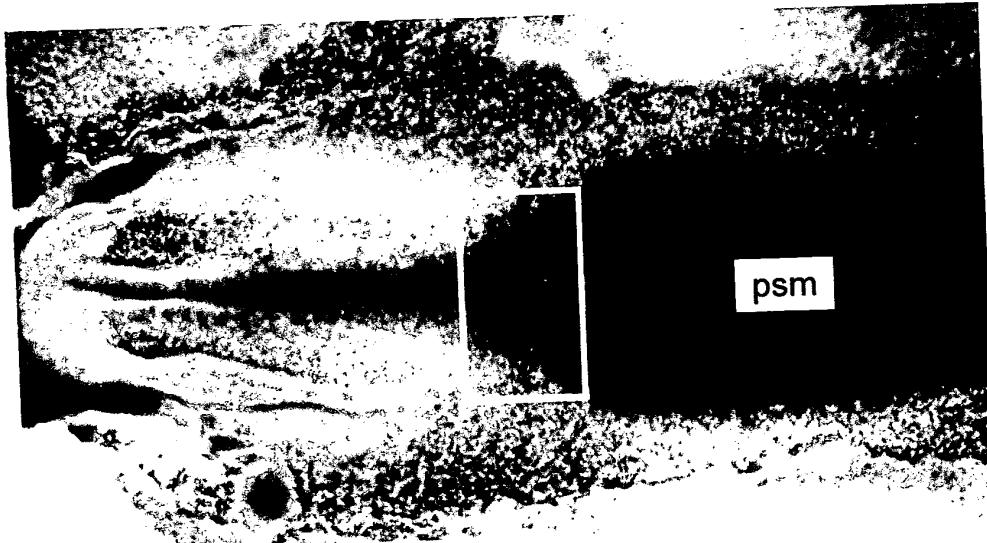


FIG.5B

Inventor(s): ISH-HOROWICZ ET AL. 7030311 . 072302
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"



FIG.5C



FIG.5D

Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"
PPR 3931 . 0722302

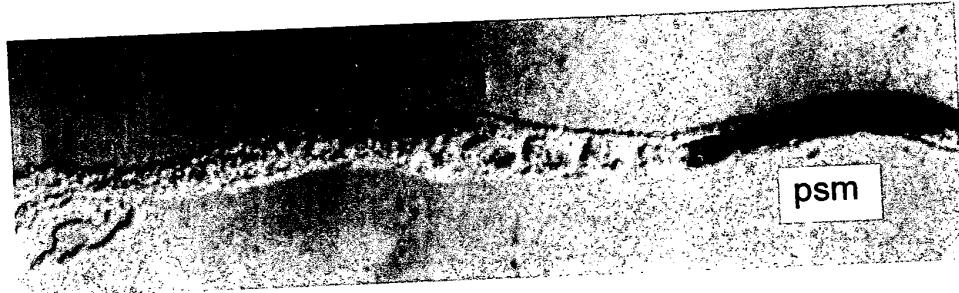


FIG.5E

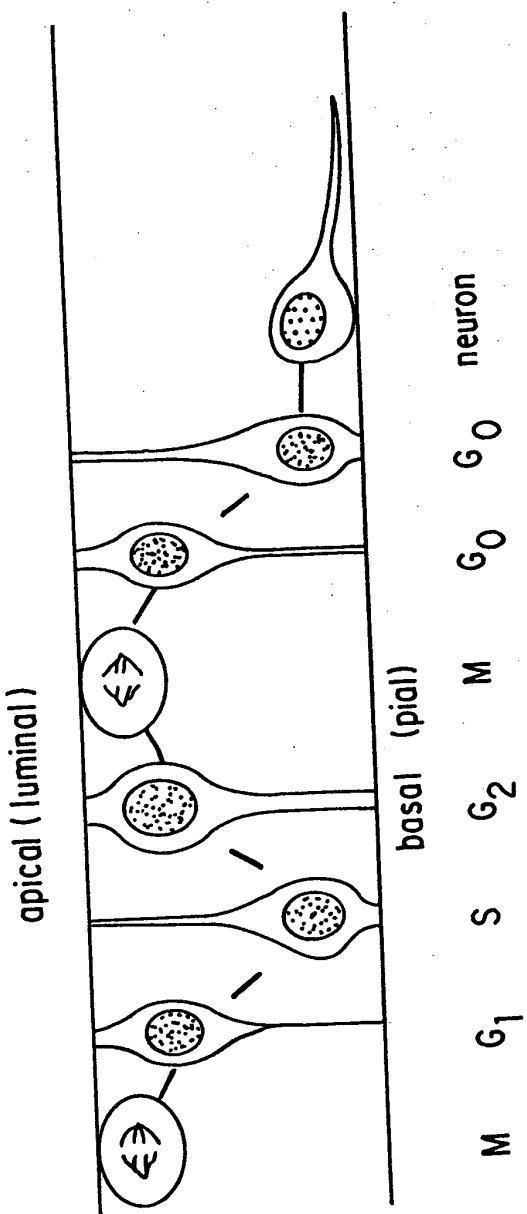


FIG. 6A

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Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"
RE 3931 . 072302

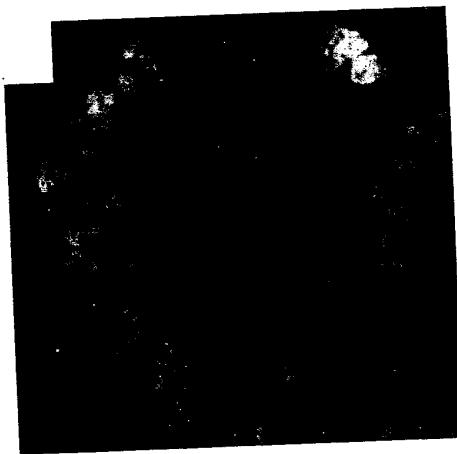


FIG.6B

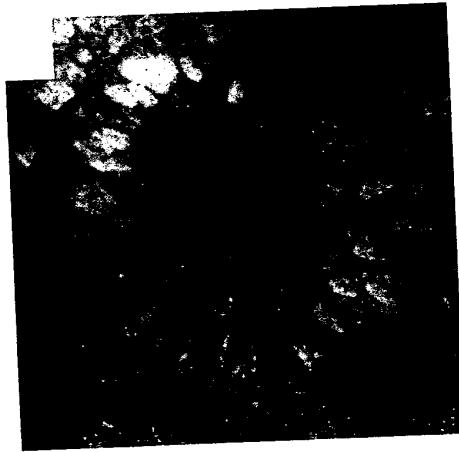


FIG.6C

CTGCAGGAAT	TCSMYCGCAT	GCTCCCGGCC	GCCATGGGCC	GTCCGGGCC	GCTAGCCCTT	60
CCGTGGTCT	CTGCCCTGCT	GTGCCAGGTC	TGGAGCTCCG	GGGTATTGA	GCTGAAGCTG	120
CAGGAGTTCG	TCAACAAAGAA	GGGCTGCTG	GGGAACCGCA	ACTGCTGCCG	CGGGGGCTCT	180
GGCCGGCTT	GGCCTGCCAG	GACCTCTTT	CGCGTATGCC	TCAAGCCTA	CCAGGCCAGC	240
GTGTCACGG	AGCCACCCCTG	CACCTACGGC	AGTGCCGTCA	CGCCAGTGT	GGGTGTGCC	300
TCCTCAGCC	TGCCCTGATGG	CGCAGGCATC	GACCCCGCCCT	TCAGCAACCC	CATCCGATT	360
CCCTTGGCT	TCACCTGGCC	AGGTACCTTC	TCTCTGATCA	TTGAAAGCCCT	CCATACAGAC	420
TCTCCGGATG	ACCTCGCAAC	AGAAAACCCA	GAAAGACTCA	TCAGGCCGCT	GACCACACAG	480
AGGCACCTCA	CTGTGGGAGA	AGAATGGTCT	CAGGACCTTC	ACAGTAGCCG	CCGCACAGAC	540
CTCCGGTACT	CTTACCGGTT	TGTGTGTGAC	GAGCACTACT	ACGGAGAAGG	TTGCTCTGTG	600
TTCTGCCGAC	CTCGGGATGA	CGCCTTTGGC	CACTTCACCT	GGGGGGACAG	AGGGGAGAAG	660
ATGTGGACC	CTGGCTGGAA	AGGCCAGTAC	TGCACGTGAC	CAATCTGTCT	GCAGGGGTGT	720
GATGACCAAC	ATGGATACTG	TGACAAACCA	GGGGAGTGCA	AGTGCAGAGT	TGGCTGGCAG	780
GGCGCTACT	GGGATGAGTG	CATCCGGATAC	CCAGGGTGTG	TCCATGGCAC	CTGCCAGCAA	840
CCCTGGCACT	GTAACTGCCA	GGAAAGGCTGG	GGGGGCCTTT	TCTGCAACCA	AGACCTGAAC	900
TACTGTACTC	ACCATAAGCC	GTGCAGGAAT	GGAGCCACCT	GCACCAACAC	GGGCCAGGGG	960
AGCTACACAT	GTTCCTGCCG	ACCTGGGTAT	ACAGGGTGCCA	ACTGTGAGCT	GAAAGTAGAT	1020
GAGTGTGCTC	CTAGCCCCCTG	CAAGAACGGA	GGAGGCTGCCA	CGGACCTTGA	GGACAGCTTC	1080
TCTTGCACCT	GCCCTCCCGG	CTTCTATGGC	AAGGTCTGTG	AGCTGAGGCC	CATGACCTGT	1140
GCAGATGGCC	CTTGCTTCAA	TGGAGGACGA	TGTTCAGATA	ACCCGTGACGG	AGGCTACACC	1200
TGCCATGCC	CCTTGGGCTT	CTCTGGCTTC	AACTGTGAGA	AGAAGATGGA	TCTCTGGGGC	1260
TCTTCCCCCT	GTTCCTAACGG	TGCCAAAGTGT	GTGGACCTCG	GCAAACCTTA	CCTGTGCCGG	1320
TGCCAGGCTG	GCTTCTCCGG	GAGGTACTGC	GAGGACAATG	TGGATGACTG	TGCGCTCCTCC	1380

FIG. 7A



Serial No.: 09/103,531
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144
 1500
 1560
 1620
 1680
 1740
 1800
 1860
 1920
 1980
 2040
 2100
 2160
 2220
 2280
 2340
 2400
 2460
 2520
 2580
 2640
 2692

CCGTGTGCAA ATGGGGCAC CTTGGGGAC AGTGTGAACG ACTTCTCCTG TACCTGCCCA
 CCTGGCTACA CGGGCAAGAA CTGGCGGCC CCTGTCAGCA GGTGTGAGCA TGACCCCTGCG
 CATAATGGGG CCACCTGCCA CCAGAGGGC CAGGGCTACA TGTGTGAGTG CGCCCAAGGGC
 TATGGGGCC CCAACTGCCA GTTCTGGCTC CCTGAGCCAC CACCAAGGGCC CATGGTGTGCG
 GACCTCAGTG AGAGGCATAT GGAGAGCCAG GGGGGGCCCT TCCCGCTGGGT GGCCTGTGTG
 GCCGGGTTGG TGCTTGTCT CCGTGTGCTG CTGGCTGTGCTG GGTCTGGGTC
 CGGCTGAAGC TACAGAAACA CCAGGCTCCA CCTGAACCCCT GTGGGGAGA GACAGAAACC
 ATGAACAAAC TAGCCAATTG CCAGGGCGAG AAGGACGTTT CTGGCTGGCT CATTGGGGCT
 ACCCAGATCA AGAACACCAA CAAGAAGGGC GACTTTCACG GGGACCATGG AGCCGAGAAG
 AGCAGCTTTA AGGTCCGATA CCCCACTGTG GACTATAACC TCGTTCGAGA CCTCAAGGGA
 GATGAAGCCA CGGTCAAGGGG TACACACAGC AAACGTGACA CCAAGTGGCA GTCACAGGGC
 TCTGCAGGAG AAGAGAAAGT CGCCCAACAA CTTAGGGGTG GGGAGATTCC TGACAGAAAA
 AGGCCAGAGT CTGTCIACTC TACTTCAAAG GACACCAAGT ACCAGTCGGT GTATGTTCTG
 TCTGCAGAAA AGGATGAGTG TGTATAGCG ACTGAGGTGT AAGGATGGAAG CGATGTTGCA
 AAATTCCCAT TTCTCTAAA TAAAATTCCA AGGATATAAC CCCGATGAAT GCTGCTGAGA
 GAGGAAGGG AAGGAACCC AGGGACTGCT GCTGAGAACC AGGTTCAAGG GAAACGTGGTT
 CTCTCAGAGT TAGCAGAGGC GCCCAGACAT GCCAGGCTAG GCTTTGGCTG CGGCTGGACT
 GCCTGCTGGT TGTTCCCATT GCACTATGGA CAGTTGCTT GAAGAGTATA TATTAAATG
 GAGGAGT GAGGAGT TGTGATTCA TAGGAAGGCAC GCACTGCCCA CACGTCTATC TTGGATTACT
 ATGAGCCAGT CTTTCCCTGTA ACTAGAAACA CAACTGCCCT TATTGTCCTT TTGATACTG
 AGATGTGTTT TTTTTTTTCA GATTATGGGA CTAGACGGGA AAAAGAAAC GTGTGTTATT TTTTTGGGA
 TTTGTAAAAA TATTTCAT GATTATGGGA GAGCTCCAA CGCCTGGAG GT

FIG. 7B



Serial No.: 09/103,591
Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA PROTEINS AND FRAGMENTS"

MGRRSALALA	VVSALLCQVW	SSGVFELKLQ	EFVNKKGLLG	NRNCCRGSSG	50
PPCACRTFFR	VCLKHYQASV	SPEPPCTYGS	AVTPVLGVDs	FSLPDGAGID	100
PAFSNPIRFP	FGFTWPGBTFS	LIIEALHTDS	PDDLATENPE	RLLISRLTTQR	150
HLTVGEESQ	DLHSSGRTDL	RYSYRFVCDE	HYEGEGCSVF	CRPRDDAFAFGH	200
FTCGDRGEKM	CDPGWKGQYC	TDPICLPGCD	DQHGYCDKPG	ECKCRVGWQG	250
RYCDECIRYP	GCLHGTCTQQP	WQCNCQEGWG	GLFCNQDLNY	CTHHKPCRNG	300
ATCTNTGQGS	YTCSCRPGYT	GANCELEVDDE	CAPS PCKNGA	SCTDLED SFS	350
CTCPPGFYGK	VCELSAMTCA	DGPCFNGGRC	SDNPDGYYTC	HCPLGFSGFN	400
CEKKMDLCGS	SPCSNGAKCV	DLGNSYLCRC	QAGFSGRYCE	DNVDDCASSP	450
CANGGTCRDS	VNDFSCTCPP	GYTGKNC SAP	VSRC EHA PCH	NGATCHQRGQ	500
RYMCECAQGY	GGPNCQFLLP	EPPPGPMVVD	LSERHME SQG	GPFPWAVCA	550
GVVLVLLLL	GCAAVVVCVR	LKLQKHQPPP	EPCGGETETM	NNLANCQREK	600
DVSVSIIGAT	QIKNTNKKAD	FHGDHGAEKS	SFKVRYPTVD	YNLVRDLKGD	650
EATVRDTHSK	RDTKCQSQSS	AGEEKIAPTL	RGGETPDRKR	PESVYSTS KD	700
TKYQSVVYVL S	AEKDECVIAT	EV			722

FIG. 8

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PATENT & TRADEMARK OFFICE

CHICK DELTA
 MOUSE DELTA.PEP

MGGRFLILTLA	LLSALLCRCQ	MDGSVFEKL	LQEFVNKKGL	LSRNCCRGG	50
MGRRLSALALA	WSSALLCQ	MWSGVFEKL	LQEFVNKKGL	LGNRCCRGG	48
MG.R...L.LA	...SALLC...	M...SGVFELD	LQEFVNKKGL	L.NRNCCRGG	50

CONSENSUS

CHICK DELTA
 MOUSE DELTA.PEP

GPCCAGQQQC	DOKTFFRVCL	KHYQASVSPE	PPCTYGSAIT	PVLGANFSV	100	
—SCP—	—PC	ACRITFFRVCL	KHYQASVSPE	PPCTYGSAMT	PVLGVDSFL	93
...G...	...C...	TFFRVCL	KHYQASVSPE	PPCTYGSAT	PVLG...SFS	100

CONSENSUS

CHICK DELTA
 MOUSE DELTA.PEP

PDGAGGA	DPA	FSNPIRFPFG	FTWPGTFSLI	IEALHTDSPD	DLTTENPERL	150
PDGAG	—DPA	FSNPIRFPFG	FTWPGTFSLI	IEALHTDSPD	DLATENPERL	142
PDGAG	..DPA	FSNPIRFPFG	FTWPGTFSLI	IEALHTDSPD	DL.TENPERL	150

CONSENSUS

CHICK DELTA
 MOUSE DELTA.PEP

ISRLIA	TQRHL	AVGEEWSQDL	HSSGRTDLKY	SYRVCDEHY	YEGCSVFCR	200
ISRLTT	TQRHL	TVGEEWSQDL	HSSGRTDLRY	SYRVCDEHY	YEGCSVFCR	192
ISRL.	TQRHL	...VGEEWSQDL	HSSGRTDL.Y	SYRVCDEHY	YEGCSVFCR	200

CONSENSUS

CHICK DELTA
 MOUSE DELTA.PEP

PRDD	FGHT	CGERGEKVCN	PGWKGQYCTE	PICLPGCDEQ	HG.CDKPGEC	250
PRDDA	FGHT	CGDRGEKVCN	PGWKGQYCTD	PICLPGCDDQ	HGYCDKPGEC	242
PRDD.	FGHFT	CG.RGEK.C.	PGWKGQYCT.	PICLPGCD.Q	HG.CDKPGEC	250

CONSENSUS

CHICK DELTA
 MOUSE DELTA

KCRVGWQGRY	CDECIRYPGC	LHGTQQPWQ	CNCQEGWGGL	FCNQDLNYCT	300
KCRVGWQGRY	CDECIRYPGC	LHFTQQPWQ	CNCQEGWGGL	FCNQDLNYCT	292
KCRVGWQGRY	CDECIRYPGC	LHGTQQPWQ	CNCQEGWGGL	FCNQDLNYCT	300

CONSENSUS

CHICK DELTA
 MOUSE DELTA.PEP

HHKPC	NGAT	CTNTGQGSTY	CSCRPGYTGS	SCE.IE.I	NECD	ANPCKNQGSC	350
HHKPC	NGAT	CTNTGQGSTY	CSCRPGYTGA	NCIELE	MECA	PSPCKNGASC	342
HHKPC	NGAT	CTNTGQGSTY	CSCRPGYTG.	CE.E.	EC.	..PCKNG.	SC 350

CONSENSUS

CHICK DELTA
 MOUSE DELTA.PEP

TDLE	NSYSCT	CPPGFYGKNC	ELSAMTCADG	PCFNGGRQTD	NPDGGYSORC	400
TDLE	NSCT	CPPGFYGKNC	ELSAMTCADG	PCFNGGRQSD	NPDGGYTOHC	392
TDLE	.S.SCT	CPPGFYGK.C	ELSAMTCADG	PCFNGGRQ.C	NPDGGY.O.C	400

CONSENSUS

CHICK DELTA
 MOUSE DELTA.PEP

PLGYS	GFNCE	KKIDYCSSSP	OANGAQCVDL	GNSYI	CQCQA	GFTGRHCDN	450
PLG	SGFNCE	KKMDLCCSSP	CSNGAKCVL	GNSYI	CRQQA	GFSGRYCEDN	442
PLG.	SGFNCE	KK.D.C.SSP	O.NGA.C.VDL	GNSYI	C.QA.GF.	GR.C.DN	450

CONSENSUS

FIG.9A



Serial No.: US/100,501
 Inventor(s): ISH-HOROWICZ ET AL
 Title: "ANTIBODIES TO VERTEBRATE DELTA
 PROTEINS AND FRAGMENTS"

CHICK DELTA	VDDCASFP	POV	NGGTCDDGVN	DYSCTCPPG	Y	GKNC	TPVS	RCEHN	PCHNG	500			
MOUSE DELTA.PEP	VDDCASSPCA		NGGTCDDSVN	DYSCTCPPG	Y	GKNC	SAPVS	RCEHAP	PCHNG	492			
CONSENSUS	VDDCAS.	PO.	NGGTC	D.	VN	D.	SCTCPPG	GKNCS.	PVS	RCEH.	PCHNG	500	
CHICK DELTA	ATCHERS	SNRY	VCECARGY	GG	LNCQFLL	PEP	PPGPV	IVDFT	EKYTE	QNSQ	550		
MOUSE DELTA	ATCHORG	GORY	MCECAQ	GGG	PNCQFLL	PEP	PPGPMV	VDLS	ERHME	SGGP	542		
CONSENSUS	ATCH.	R.	RY	CECA.	GYGG	NCQFLL	PEP	P.	GP.	VD.	E...	E.D...	550
CHICK DELTA	FPW	AVCAGI	ILVLM	LLGC	AA	WV	CVRLK	MQKRHH	OPEA	CRSET	ETMNN	600	
MOUSE DELTA.PEP	FPW	AVCAGV	VLVLL	LLGC	AA	WV	CVRLK	LQKHOPP	PEP	CGGE	ETMNN	592	
CONSENSUS	FPW.	AVCAG.	LVL.	LLGC	AA.	WV	CVRLK	QK...	PE.	C...	ETMNN	600	
CHICK DELTA	LANCOREKD	I	SIS	I	GATQI	KNTNKK	DFH	SDN-SD	KNGY	KVRYP	VDYN	649	
MOUSE DELTA	LANCOREKD	V	SMS	I	GATQI	KNTNKK	ADF	GDHGA	EKSSF	KVRYP	VDYN	642	
CONSENSUS	LANCOREKD.	S.	S.	I	GATQI	KNTNKK.	DFH	D...	K...	KVRYP	VDYN	650	
CHICK DELTA	LVHELKNE	D	SMEE	HCKCE	AKO	TYDSEA	EEKSAV	QKS	SDTSE	RKRPD	698		
MOUSE DELTA.PEP	LVRLDKG	DEA	T	VRDTHSKRD	T	KOQSQSSAG	EEKIA	PTL	RG	GEIPDR	RKRPE	692	
CONSENSUS	LV.	..LK	...	M	..H	K	..KO	...	S.	EEK.	A...	RKRPE.	700
CHICK DELTA	SVYSTSKDTK	YQSVYV	I	SEE	KDEC	I	ATEV					728	
MOUSE DELTA.PEP	SVYSTSKDTK	YQSVYV	I	SAE	KDEC	VI	ATEV					722	
CONSENSUS	SVYSTSKDTK	YQSVYV	S.	E	KDEC	I	ATEV					730	

FIG.9B



Serial No. 09/103,351
 Inventor(s): ISH-HOROWICZ ET AL
 Title: "ANTIBODIES TO VERTEBRATE DELTA
 PROTEINS AND FRAGMENTS"

10 20 30 40 50 60
 * * * * *

TACGATGAAY AACCTGGCGA ACTGCCAGCG TCAGAAGGAC ATCTCAGTCA GCATCATCGG
 Y D E X P G E L P A * E G H L S Q H H R >
 T M N N L A N C Q R E K D I S V S I I G >
 R * X T W R T A S V R R T S Q S A S S >

70 80 90 100 110 120
 * * * * *

GGCYACGTCA GATCARGAAC ACCAACAAAGA AGGCGGACTT YMCASCAGGG GACCASAGCG
 G X V R S X T P T R R R T X X R G T X A >
 A T S D Q E H Q Q E G G L X X G G P X R >
 G X R Q I X N T N K K A D F X X G D X S >

130 140 150 160 170 180
 * * * * *

TCCGACAAGA ATGGMTTCA AGGCCYGCTA CCCCAGCGTG GACTATAACT CGTGCAGGAC
 S D K N G F Q G P L P Q R G L * L V Q D >
 P T R M X F K A R Y P S V D Y N S C R T >
 V R Q E W X S R P A T P A W T I T R A G >

190 200 210 220 230 240
 * * * * *

CTCAAGGGTG ACGACACCGC CGTCAGGACG TCGCACAGCA AGCGTGACAC CAAGTGCCAG
 L K G D D T A V R T S H S K R D T K C Q >
 S R V T T P P S G R R T A S V T P S A S >
 P Q G * R H R R Q D V A Q Q A * H Q V P >

250 260 270 280 290 300
 * * * * *

TCCCCAGGCT CCTCAGGGAG GAGAAGGGGA CCCCAGCAC ACTCAGGGGK TGCAGTGC
 S P G S S G R R R G P R P H S G X A C C >
 P Q A P Q G G E G D P D H T Q G X R A A >
 V P R L L R E E K G T P T T L R G C V L >

310 320 330 340 350 360
 * * * * *

GGGCCGGGCT CAGGAGGGGG TACCTGGGG GTGTCTTCTT GGAACCACTG CTCCGTTCT
 G P G S G G G T W G V S S W N H C S V S >
 G R A Q E G V P G G C L P G T T A P F L >
 R A G L R R G Y L G G V F L E P L L R F >

FIG. 10A



370 380 390 400 410 420
* * * * *

CTTCCCAAAT GTTCTCATGC ATTCAATTGTG GATTTCTCT ATTTCCCTTT TAGTGGAGAA
L P K C S H A F I V D F L Y F P F S G E>
F P N V L M H S L W I F S I F L L V E K>
S S Q M F S C I H C G F S L F S F * W R>

430 440 450 460 470 480
* * * * *

GCATCTGAAA GAAAAAGGCC GGACTCGGGC TGTTCAACTT CAAAAGACAC CAAGTACCAAG
A S E R K R P D S G C S T S K D T K Y Q>
H L K E K G R T R A V Q L Q K T P S T S>
S I * K K K A G L G L F N F K R H Q V P>

490 500 510 520
* * * *

TCGGTGTACG TCATATCCGA GGAGAAGGAC GAGTGCGTCA TCGCA
S V Y V I S E E K D E C V I A>
R C T S Y P R R R T S A S S>
V G V R H I R G E G R V R H R>

FIG. 10B



Serial No.: 09/100,591
Inventor(s): ISH-HOROWICZ ET AL. Date: 7/20/21. 07/22/2022
Title: "ANTIBODIES TO VERTEBRATE DELTA PROTEINS AND FRAGMENTS"

1 TMNNLANCQREKDISVSIIGATQIXNTNKKADFXGXSSDKNGFQKARY 50
|||||||||||||:||||||||||.|| :: ||||: 1..
597 TMNNLANCQREKDISIVIGATQIKNTNKKVDFHSDN..SDKNGY.KVRY 643
||||||||:||..| .|..|:| .||: .|..|: .|: .|:
51 PSVDYNLVQDLKGDDTAVRTSHSKRDTKCQSPGSSGRRGPRPHSGXACC 100
|||||||:||..| .|..|:| .||: .|..|: .|:
644 PSVDYNLVHELKNED.SVKEEHGKCEAKCETYDSEAEKSA..... 683
|||||:||..| .|..|:| .||: .|..|: .|:
101 GPGGGGTWGVSSWNHCSVSLPKCASHAFIVDFLYFPFSGEASERKRPDSG 150
|::| .|..| .|..|: .|:
684VQLK....SSDTSERKRPDSV 700
|::| .|..| .|..|: .|:
151 CSTSKDTKYQSVYVISEEKDECVIA 175
:|||||||||||||||:||
701 YSTSKDTKYQSVYVISEEKDECIIA 725

FIG. 11



Serial No.: US7100,301
 Inventor(s): ISH-HOROWICZ ET AL
 Title: "ANTIBODIES TO VERTEBRATE DELTA
 PROTEINS AND FRAGMENTS"

	10	20	30	40	50	60
*	*	*	*	*	*	*
CATTGGGTAC	GGGCCCCCCT	CGAGGTCGAC	GGTATCGATA	AGCTTGATAT	CGAATTCCGG	
70	80	90	100	110	120	
*	*	*	*	*	*	*
CTTCACCTGG	CCGGGCACCT	TCTCTCTGAT	TATTGAAGCT	CTCCACACAG	ATTCTCCTGA	
130	140	150	160	170	180	
*	*	*	*	*	*	*
TGACCTCGCA	ACAGAAAACC	CAGAAAGACT	CATCAGCCGC	CTGGCCACCC	AGAGGCACCT	
190	200	210	220	230	240	
*	*	*	*	*	*	*
GACGGTGGGC	GAGGAGTGGT	CCCAGGACCT	GCACAGCAGC	GGCCGCACGG	ACCTCAAGTA	
250	260	270	280	290	300	
*	*	*	*	*	*	*
CTCCTACCGC	TTCGTGTGTC	ACCAACACTA	CTACGGAGAG	GGCTGCTCCG	TTTTCTGCCG	
310	320	330	340	350	360	
*	*	*	*	*	*	*
TCCCCGGGAC	GATGCCCTCG	GCCACTTCAC	CTGTGGGGAG	CGTGGGGAGA	AAGTGTGCAA	
370	380	390	400	410	420	
*	*	*	*	*	*	*
CCCTGGCTCG	AAAGGGCCCT	ACTGCACAGA	GCCGATCTGC	CTGCCTGGAT	GTGATGAGCA	
430	440	450	460	470	480	
*	*	*	*	*	*	*
GCATGGATT	TGTGACAAAC	CAGGGGAATG	CAAGTGCAGA	GTGGGCTGGC	AGGGCCGGTA	
490	500	510	520	530	540	
*	*	*	*	*	*	*
GTGTGACGAG	TGTATCCGCT	ATCCAGGCTG	TCTCCATGGC	ACCTGCCAGC	AGCCCTGGCA	
550	560	570	580	590	600	
*	*	*	*	*	*	*
GTGCAACTGC	CAGGAAGGNT	GGGGGGGCCT	TTTCTGCAAC	CAGGACCTGA	ACTACTGCAC	
610	620	630	640	650	660	
*	*	*	*	*	*	*
ACACCATAAG	CCCTGCAAGA	ATGGAGCCAC	CTGCAACAAA	CACGGGCCAG	GGGGAGCTAC	
670	680	690	700	710	720	
*	*	*	*	*	*	*
ACTTGGTCTT	TGGCCGGNCT	GGGGTACANA	GGGTGCCACC	TGCGAAGCTT	GGGGATTGGA	
730	740	750	760	770	780	
*	*	*	*	*	*	*
CGAGTTGTTG	ACCCCAGCCC	TTGGTAAGAA	CGGAGGGAGC	TTGACGGATC	TTCGGAGAAC	
790	800	810	820	830	840	
*	*	*	*	*	*	*
AGCTACTCCT	GTACCTGCC	ACCCGGCTTC	TACGGCAAAA	TCTGTGAATT	GAGTGCCATG	
850	860	870	880	890	900	
*	*	*	*	*	*	*
ACCTGTGCGG	ACGGCCCTTG	CTTTAACGGG	GGTCGGTGT	CAGACAGCCC	CGATGGAGGG	

FIG. 12A1



910	920	930	940	950	960
*	*	*	*	*	*
TACAGCTGCC	GCTGCCCGT	GGGCTACTCC	GGCTTCACT	GTGAGAAGAA	AATTGACTAC
970	980	990	1000	1010	1020
*	*	*	*	*	*
TGCAGCTCTT	CACCCCTGTT	TAATGGTGC	AAGTGTGTGG	ACCTCGGTGA	TGCCTACCTG
1030	1040	1050	1060	1070	1080
*	*	*	*	*	*
TGCCGCTGCC	AGGCCGGCTT	CTCGGGGAGG	CACTGTGACG	ACAACGTGGA	CGACTGCGCC
1090	1100	1110	1120	1130	1140
*	*	*	*	*	*
TCCTCCCCGT	GCGCCAACGG	ACCTCGGTGA	CGGGATGGCG	TGAACGACTT	CTCCTGCACC
1150	1160	1170	1180	1190	1200
*	*	*	*	*	*
TGCCCCGCTG	GCTACACGGG	CAGGAACCTGC	AGTGCCCCCG	CCAGCACCTG	CGAGCACGCA
1210	1220	1230	1240	1250	1260
*	*	*	*	*	*
CCCTGCCACA	ATGGGGCCAC	CTGCCACGAG	AGGGGCCACC	GCTATNTGTG	CGAGCACGCA
1270	1280	1290	1300	1310	1320
*	*	*	*	*	*
CGAAGCTACG	GGGGTCCCAA	CTCCCANNTTC	CTGCTCCCCC	AAACTGCC	CCCGGCCCA
1330	1340	1350	1360	1370	1380
*	*	*	*	*	*
CGGTGGTGG	AACTCCCCTA	AAAAAACCTA	AAAGGGCCGG	GGGGGGCCCA	TCCCCTTGGT
1390	1400	1410	1420	1430	1440
*	*	*	*	*	*
GGACGTGTGC	GCCGGGGTCA	TCCTTGTCT	CATGCTGCTG	CTGGGCTGTG	CCGCTGTGGT
1450	1460	1470	1480	1490	1500
*	*	*	*	*	*
GGTCTCGTC	CGGCTGAGGC	TGCAAGAGCA	CCGGCCCCCA	GCCGACCCCT	GNCGGGGGGA
1510	1520	1530	1540	1550	1560
*	*	*	*	*	*
GACGGAGACC	ATGAACAACC	TGGNCAACTG	CCAGCGTGAG	AAGGACATCT	CAGTCAGCAT
1570	1580	1590	1600	1610	1620
*	*	*	*	*	*
CATCGGGGNC	ACGCAGATCA	AGAACACCAA	CAAGAAGGGCG	GACTTCCACG	GGGACCACAG
1630	1640	1650	1660	1670	1680
*	*	*	*	*	*
NGCCGACAAG	AATGGCTTC	AGGCCCGCTA	CCCAGNGGTG	GACTATAACC	TCGTGCAGGA
1690	1700	1710	1720	1730	1740
*	*	*	*	*	*
CCTCAAGGGT	GACGACACCG	CCGTCAGCCA	CGCGCACAGC	AAGCGTGACA	CCAAGTGNC
1750	1760	1770	1780	1790	1800
*	*	*	*	*	*
GCCCCAGGGC	TCCTCAGGGG	AGGAGAAGGG	GACCCCCGAC	CCACACTCAG	GGGGTGGAGG

FIG.12A2

Serial No.: 09/103,931

Inventor(s): ISH-HOROWICZ ET AL. 7239311 .. 072302
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"



1810	1820	1830	1840	1850	1860
*	*	*	*	*	*
AAGCATCTTG	AAAGAAAAAG	GCCGGACTTC	GGGCTTGTTC	AACTTCAAA	AGACAANCAA
1870	1880	1890	1900	1910	1920
*	*	*	*	*	*
NGTACAAGTC	GGTGTNCGTC	ATTCGNAG	GAGGAAGGNT	GAUTGCGTCA	TAGGAANTTG
1930	1940	1950	1960	1970	1980
*	*	*	*	*	*
AGGTNGTAAA	NTGGNAGTTG	ANNTTGGAAA	GNNNTCCCCG	GATTCCGNNTT	TCAAAGTTT

T

FIG. 12A3



10	20	30	40	50	60															
*	*	*	*	*	*	* * o.o.no.														
CATTGGGTAC GGGCCCCCT CGAGGTCGAC GGTATCGATA AGTTGATAT CGAATTCCGG																				
H	W	V	R	A	P	L	E	V	D	G	I	D	K	L	D	I	E	F	R>	20
I	G	Y	G	P	P	S	R	S	T	V	S	I	S	L	I	S	N	S	G>	20
L	G	T	G	P	P	R	G	R	R	Y	R	*	A	*	Y	R	I	P>	19	
70	80	90	100	110	120															
*	*	*	*	*	*															
CTTCACCTGG CGGGGCACCT TCTCTCTGAT TATTGAAGCT CTCCACACAG ATTCTCCTGA																				
L	H	L	A	G	H	L	L	S	D	Y	*	S	S	P	H	R	F	S	*>	40
F	T	W	P	G	T	F	S	L	I	I	E	A	L	H	T	D	S	P	D>	40
A	S	P	G	R	A	P	S	L	*	L	L	K	L	S	T	Q	I	L	L>	39
130	140	150	160	170	180															
*	*	*	*	*	*															
TGACCTCGCA ACAGAAAACC CAGAAAGACT CATCAGCCGC CTGGCCACCC ACAGGCACCT																				
*	P	R	N	R	K	P	R	K	T	H	Q	P	P	G	H	P	E	A	P>	60
D	L	A	T	E	N	P	E	R	L	I	S	R	L	A	T	Q	R	H	L>	60
M	T	S	Q	Q	K	T	Q	K	D	S	S	A	A	W	P	P	R	G	T>	59
190	200	210	220	230	240															
*	*	*	*	*	*															
GACCGTGGCC GAGGAGTGCT CCCAGGACCT GCACAGCAGC GGCCGCACGG ACCTCAAGTA																				
D	G	G	R	G	V	V	P	G	P	A	Q	Q	R	P	H	G	P	Q	V>	80
T	V	G	E	E	W	S	Q	D	L	H	S	S	G	R	T	D	L	K	Y>	80
*	R	W	A	R	S	G	P	R	T	C	T	A	A	A	R	T	S	S>	79	
250	260	270	280	290	300															
*	*	*	*	*	*															
CTCCTACCGC TTCTGTGTG ACGAACACTA CTACGGAGAG GGCTGCTCCG TTTCTGCCG																				
L	L	P	L	R	V	*	R	T	L	L	R	R	G	L	L	R	F	L	P>	100
S	Y	R	F	V	C	D	E	H	Y	Y	G	E	G	C	S	V	F	C	R>	100
T	P	T	A	S	C	V	T	N	T	T	T	E	R	A	A	P	F	S	A>	99
310	320	330	340	350	360															
*	*	*	*	*	*															
TCCCCGGGAC GATCCCTTCG GCCACTTCAC CTGTGGGAG CGTGGGAGA AAGTGTGCAA																				
S	P	G	R	C	L	R	P	L	H	L	W	G	A	W	G	E	S	V	Q>	120
P	R	D	D	A	F	G	H	F	T	C	G	E	R	G	E	K	V	C	N>	120
V	P	G	T	M	P	S	A	T	S	P	V	C	S	V	G	R	K	C	A>	119

FIG.12B1



Serial No.: US 09/90,901
 Inventor(s): ISH-HOROWICZ ET AL. 7022931, 072202
 Title: "ANTIBODIES TO VERTEBRATE DELTA PROTEINS AND FRAGMENTS"

370	380	390	400	410	420
* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *
CCCTGGCTGG AAAGGGCCCT ACTGCACAGA GCCGATCTGC CTGCCCTGGAT GTGATGAGCA					
P W L E R A L L H R A D L P A W M * * A > 140					
P G W K G P Y C T E P I C L P G C D E Q > 140					
T L A G K G P T A Q S R S A C L D V M S > 139					
430	440	450	460	470	480
* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *
GCATGGATT TGTGACAAAC CAGCCCAATG CAACTCCAGA GTGGGCTGGC AGGGCCGGTA					
A W I L * Q T R G M Q V Q S G L A G P V > 160					
H G F C D K P G E C K C R V G W Q G R Y > 160					
S M D F V T N Q G N A S A E W A G R A G > 159					
490	500	510	520	530	540
* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *
CTGTGACCGAG TGATCCGCT ATCCAGGCTG TCTCCATGGC ACCTGCCAGC AGCCCTGGCA					
L * R V Y P L S R L S P W H L P A A L A > 180					
C D E C I R Y P G C L H G T C Q Q P W Q > 180					
T V T S V S A I Q A V S M A P A S S P G > 179					
550	560	570	580	590	600
* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *
GTGCAACTGC CAGGAAGGNT GGGGGGGCCT TTTCTGCAAC CAGGACCTGA ACTACTGCAC					
V Q L P G R X G G P F L Q P G P E L L H > 200					
C N C Q E G W G G L F C N Q D L N Y C T > 200					
S A T A R K X G G A F S A T R T * T T A > 199					
610	620	630	640	650	660
* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *
ACACCATAG CCCTGCAAGA ATCGAGCCAC CTGCAACAAA CACGGGCCAG GGGGAGCTAC					
T P * A L Q E W S H L Q Q T R A R G S Y > 220					
H H K P C K N G A T C N K H G P G G A T > 220					
H T I S P A R M E P P A T N T G Q G E L > 219					
670	680	690	700	710	720
* * * * *	* * * * *	* * * * *	* * * * *	* * * * *	* * * * *
ACTTGGTCTT TGGCCGGNCT GGGGTACANA GGGTGCCACC TGGCAAGCTT GGGGATTGGA					
T W S L A G L G Y X G C H L R S L G I G > 240					
L G L W P X W G T X G A T C E A W G L D > 240					
H L V F G R X C V X R V P P A K L G D W > 239					

FIG.12B2



730 740 750 760 770 780
 CGAGTTGTTG ACCCCAGCCC TTGGTAAGAA CGGAGGGAGC TTGACGGATC TTGGAGAAC
 R V V D P S P W E R R E L D G S S E N > 260
 E L L T P A L G K N G G S L T D L R R T > 260
 T S C * P Q P L V R T E Q A * R I F G E > 259

790 800 810 820 830 840
 AGCTACTCCT GTACCTGCC ACCCGGCTTC TACGGAAAAA TCTGTGAATT GAGTGCCATC
 S Y S C T C P P G F Y G K I C E L S A M > 280
 A T P V P A H P A S T A K S V N * V P * > 280
 Q L L Y L P T R L L R Q N L * I E C H > 279

850 860 870 880 890 900
 ACCTGTGGGG ACCGGCCCTTG CTTAACGGG GGTGGTGCT CAGACAGCCC CGATGGAGGG
 T C A D G P C F N G G R C S D S P D G G > 300
 P V R T A L A L T G V G A Q T A P M E G > 300
 D L C G R P L L * R G S V L R Q P R W R > 299

910 920 930 940 950 960
 TACAGCTGCC GCTGCCCGT GGCCTACTCC GGCTCAACT GTGAGAAGAA AATTGACTAC
 Y S C R C P V G Y S G F N C E K K I D Y > 320
 T A A A A P W A T P A S T V R R K L T T > 320
 V Q L P L P R G L L R L Q L * E E N * L > 319

970 980 990 1000 1010 1020
 TCCAGCTCTT CACCCGTTC TAATGGTGC C AAGTGTGTGG ACCTCCGTGA TGCCTACCTG
 C S S S P C S N G A K C V D L G D A Y L > 340
 A A L H P V L M V P S V W T S V M P T C > 340
 L Q L F T L F * W C Q V C G P R * C L P > 339

1030 1040 1050 1060 1070 1080
 TGGCCGTGCC AGGCCGGCTT CTCCGGAGG CACTGTGACG ACAACGTGGA CGACTGGCC
 C R C Q A G F S G R H C D D N V D D C A > 360
 A A A R P A S R G G T V T T T W T T A P > 360
 V P L P G R L L G E A L * R Q R G R L R > 359

FIG.12B3



1090	1100	1110	1120	1130	1140	
* * * * *						
TCCTCCCCGT GCGCCAACGG GGGCACCTGC CGGGATGGCG TGAACGACTT CTCCCTGCACC						
S S P C A N G G T C R D G V N D F S C T >						380
P P R A P T G A P A G M A * T T S P A P >						380
L L P V R Q R G H L P G W R E R L L L H >						379
* * * * *						
1150	1160	1170	1180	1190	1200	
* * * * *						
TGCCTGGCTG GCTACACGGG CAGGAACCTGC AGTGCCTGGG CCAGCAGGTG CGAGCACGCA						
C P P G Y T G R N C S A P A S R C E H A >						400
A R L A T R A G T A V P P P A G A S T H >						400
L P A W L H G Q E L Q C P R Q Q V R A R >						399
* * * * *						
1210	1220	1230	1240	1250	1260	
* * * * *						
CCCTGCCACA ATGGGGCAC CTGCCACGAG AGGGGCCACC GCTATNTCTG CGAGTGTGCC						
P C H N G A T C H E R G H R Y X C E C A >						420
P A T M G P P A T R G A T A I C A S V P >						420
T L P Q W G H L P R E G P P L F V R V C >						419
* * * * *						
1270	1280	1290	1300	1310	1320	
* * * * *						
CGAAGCTTACG GGGTCCCAA CTGCCANTTC CTGCTCCCGG AAACTGCCCC CCCGGCCCCA						
R S Y G G P N C X F L L P E T A P P A P >						440
E A T G V P T A X S C S P K L P P R P H >						440
P K L R G S Q L P X P A P R N C P P G P >						439
* * * * *						
1330	1340	1350	1360	1370	1380	
* * * * *						
CGGTGGTCCA AACTCCCCA AAAAAACCTA AAAGGGCCGG GGGGGGCCCA TCCCCTTGGT						
R W W K L P * K N L K G P G G A H P L G >						460
G G G N S P K K T * K G R G G P I P L V >						460
T V V E T P L K K P K R A G G G P S P W >						459
* * * * *						
1390	1400	1410	1420	1430	1440	
* * * * *						
GGACGTGTGC GCCGGGTCA TCCTGTCT CATGCTGCTG CTGGGCTGTC CCGCTGTGGT						
G R V R R G H P C P H A A A G L C R C G >						480
D V C A G V I L V L M L L L G C A A V V >						480
W T C A P G S S L S S C C C W A V P L W >						479

FIG.12B4



Serial No. 09/100,531
 Inventor(s): ISH-HOROWICZ ET AL. 7233931 . 072302
 Title: "ANTIBODIES TO VERTEBRATE DELTA
 PROTEINS AND FRAGMENTS"

1450	1460	1470	1480	1490	1500
* * * * *					
GGTCTGCCCT CGGCTGAGGC TGCAGAACCA CCGGCCCCA GCCGACCCCT GNCGGGGGGA					
G	L	R	P	A	E
V	C	V	R	L	R
W	S	A	S	G	*
* * * * *					
500	500	499			
1510	1520	1530	1540	1550	1560
* * * * *					
GACGGAGACC ATGAACAACC TGGNCAACTG CCACCGTGAG AAGGACATCT CAGTCAGCAT					
D	C	D	H	E	Q
T	E	T	M	N	N
R	R	P	*	T	T
* * * * *					
520	520	519			
1570	1580	1590	1600	1610	1620
* * * * *					
CATCGGGNC ACCGAGATCA AGAACACCAA CAAGAAGGG GACTTCCACG GGGACCACAG					
H	R	G	H	A	D
I	C	X	T	Q	I
S	S	G	X	R	R
* * * * *					
540	540	539			
1630	1640	1650	1660	1670	1680
* * * * *					
NGCCGACAAG AATGGCTTCA AGGCCCCCTA CCCAGNGGTG GACTATAACC TCGTGCAGGA					
X	R	Q	E	W	L
A	D	K	N	G	F
X	P	T	R	M	A
* * * * *					
560	560	559			
1690	1700	1710	1720	1730	1740
* * * * *					
CCTCAAGGGT GACGACACCG CGCTCAGGGA CGCCGACAGC AAGCGTGACA CCAAGTCNCA					
P	Q	G	*	R	H
L	K	G	D	D	T
T	S	R	V	T	T
* * * * *					
580	580	579			
1750	1760	1770	1780	1790	1800
* * * * *					
GCCCGAGGGC TCCTCAGGGC ACCGAGAAGGG GACCCCGAC CCACACTCGAG GGGCTGGAGG					
A	P	G	L	L	R
P	Q	G	S	S	G
S	P	R	A	P	Q
* * * * *					
600	600	599			

FIG.12B5



SERIAL NO. 03/100,551
 Inventor(s): ISH-HOROWICZ ET AL. 793931 . 072202
 Title: "ANTIBODIES TO VERTEBRATE DELTA
 PROTEINS AND FRAGMENTS"

1810 1820 1830 1840 1850 1860

AAGCATCTTG AAAGAAAAAG GCGGGACTTC GGGCTTGTTC AACTTCAAA AGACAANCAA
 K H L E R K R P D F G L V Q L S K D X Q > 620
 S I L K E K G R T S G L F N F Q K T X X > 620
 E A S * K K K A G L R A C S T F K R Q X > 619

1870 1880 1890 1900 1910 1920

NGTACAAGTC GGTGTNCGTC ATTTCCGAG GAGGAAGGNT GACTGGTCA TAGGAANTTC
 X T S R C X S F P X E E G * L R H R X L > 640
 V Q V G V R H F R R R K X D C V I G X * > 640
 X Y K S V X V I S X G G R X T A S * E X > 639

1930 1940 1950 1960 1970 1980

ACGTNGTAAA NTGGNAGTTG ANNTTGGAAA GNNNTCCCC GATTCCCNNT TCAAAGTTT
 R X * X G S * X W K X X P G F R F Q S F > 660
 G X K X X V X X G K X S P D S X F K V F > 660
 E V V X W X L X L E X X P R I P X S K F > 659

FIG.12B6



U.S. GOVERNMENT PRINTING OFFICE 1999 50-1000-000-000
 Inventor(s): ISH-HOROWICZ ET AL. 723931 . 072202
 Title: "ANTIBODIES TO VERTEBRATE DELTA
 PROTEINS AND FRAGMENTS"

MOUSE DELTA DNA	GTCCAGCGGT ACCATGGGCC GTCGGAGCC GCTAGCCCTT GCGGTGGTCT	50
HUMAN DELTA	-----	
CONSENSUS	GTCCAGCGGT ACCATGGGCC GTCGGAGCC GCTAGCCCTT GCGGTGGTCT	50
MOUSE DELTA DNA	CTGCCCTGCT GTGCCAGGTC TGGAGCTCCG GCGTATTGAGCTGAAGCTG	100
HUMAN DELTA	-----	
CONSENSUS	CTGCCCTGCT GTGCCAGGTC TGGAGCTCCG GCGTATTGAGCTGAAGCTG	100
MOUSE DELTA DNA	CAGGAGTTCTG TCAACAAGAA GGGGCTGCTG GGGAACCGCA ACTGCTGCCG	150
HUMAN DELTA	-----	
CONSENSUS	CAGGAGTTCTG TCAACAAGAA GGGGCTGCTG GGGAACCGCA ACTGCTGCCG	150
MOUSE DELTA DNA	CGGGGGCTCT GCCCCGCCCTT GCGCCTGCAG GACCTTCTT CGCGTATGCC	200
HUMAN DELTA	-----	
CONSENSUS	CGGGGGCTCT GCCCCGCCCTT GCGCCTGCAG GACCTTCTT CGCGTATGCC	200
MOUSE DELTA DNA	TCAAGCACTA CCAGGCCAGC GTGTACCCGG AGCCACCCCTG CACCTACGGC	250
HUMAN DELTA	-----	
CONSENSUS	TCAAGCACTA CCAGGCCAGC GTGTACCCGG AGCCACCCCTG CACCTACGGC	250
MOUSE DELTA DNA	AGTGCTGTCA CGCCAGTGCT GGGTGTGAC TCCTTCAGCC TGCCTCATGG	300
HUMAN DELTA	-----	5
CONSENSUS	AGTGCTGTCA CGCCAGTGCT GGGTGTGAC TCCTTCAGCC TGCCTSATKG	300
MOUSE DELTA DNA	CGCAGGCATC GACCCG---G CTTTCAGCAA CCCA---TCC GATTC-CCC	343
HUMAN DELTA	GGTACCGGCC CCCCTCGAGG TCCACGGTAT CGATAAGCTT GATATCCAAT	55
CONSENSUS	SGYASGSRYC SMCCYGGAGG YCKWGRGYAW QSMYAAAGYYY GATATCGMMY	350
MOUSE DELTA DNA	TTCGGCTTCA CCTGGCCAGG TACCTTCTCT CTGATTCATTG AAGCCCTCCA	393
HUMAN DELTA	TOCGGCTTCA CCTGGCCCCGG CACCTTCTCT CTGATTATTG AAGCTCTCCA	105
CONSENSUS	TTCGGCTTCA CCTGGCCAGG TACCTTCTCT CTGATTCATTG AAGCCCTCCA	400
MOUSE DELTA DNA	TACAGACTCT CCCGATGACC TCGAACAGA AAACCCAGAA AGACTCATCA	443
HUMAN DELTA	CACAGATTCT CCTGATGACC TCGAACAGA AAACCCAGAA AGACTCATCA	155
CONSENSUS	TACAGACTCT CCCGATGACC TCGAACAGA AAACCCAGAA AGACTCATCA	450

FIG.13A



MOUSE DELTA DNA	GGCGCCTGAC	CACACAGAGG CACCTGACTG	TGGGAGAAGA ATGGTCTCAG	493
HUMAN DELTA	GGCGCCTGGC	CACCCAGAGG CACCTGACGG	TGGGGAGGA GTGGTCCAG	205
CONSENSUS	GGCGCCTGRC	CACACAGAGG CACCTGACKG	TGGGAGARGA RTGGTCTCAG	500
MOUSE DELTA DNA	GACCTGACACA	GTAGGGCCG CACAGACCTC	CGGTACTCTT ACCGCTTGT	543
HUMAN DELTA	GACCTGACACA	GCAGGGCCG CACCGACCTC	AAGTACTCCT ACCGCTTCCG	255
CONSENSUS	GACCTGACACA	GYAGGGCCG CACCGACCTC	MRGTACTCTT ACCGCTTGT	550
MOUSE DELTA DNA	GTGTGACGAG	CACTACTACG GAGAAGGTG	CTCTGTGTTTC TGCCGACCTC	593
HUMAN DELTA	GTGTGACGAA	CACTACTACG GAGAGGGCTG	CTCCGTTTTC TGCCGTCCTC	305
CONSENSUS	GTGTGACGAR	CACTACTACG GAGAAGGTG	CTCTGTGTTTC TGCCGACCTC	600
MOUSE DELTA DNA	GGGATGACGC	CTTGGCCAC TTACCTGCG	GGGACAGAGG GGAGAACATG	643
HUMAN DELTA	GGGACGATGC	CTTGGCCAC TTACCTGCG	GGGAGCGTGG GGAGAAAGTG	355
CONSENSUS	GGGAGGAGC	CTTGGCCAC TTACCTGCG	GGGAGGAGG GGAGAAAGTG	650
MOUSE DELTA DNA	TGGGACCTG GCTGAAAGG	CCAGTACTGC GCTGACCCAA	TCTGTCTGCC	693
HUMAN DELTA	TGGAACCTG GCTGAAAGG	CCCTACTGC ACAGACCCGA	TCTGCTGCC	405
CONSENSUS	TGGGACCTG GCTGAAAGG	CCAGTACTGC ACAGACCCGA	TCTGTCTGCC	700
MOUSE DELTA DNA	AGGGTGTGAT GACCAACATG	GATACGTGA CAAACCAGGG	GAGTGCAGT	743
HUMAN DELTA	TGGATGTGAT GACCAACATG	GATTTGTGA CAAACCAGGG	GAATGCAGT	455
CONSENSUS	WGGRGTGAT GACCAACATG	GATWYGTGA CAAACCAGGG	GARTGCAGT	750
MOUSE DELTA DNA	CCAGAGTGG CTGGCAGGGC	CCGTACTCGG ATGAGTCAT	CCGATAACCA	793
HUMAN DELTA	CCAGAGTGG CTGGCAGGGC	CCGTACTCGG ACGAGTGTAT	CCGCTATACCA	505
CONSENSUS	CCAGAGTGG CTGGCAGGGC	CCGTACTCGS AYGAGTGYAT	CCGCTATACCA	800
MOUSE DELTA DNA	GGTTGTCCTC ATGCCACCTG	CCACCAACCC TGGCAGTGT	TA ACTGCCAGGA	843
HUMAN DELTA	GGCTGTCCTC ATGCCACCTG	CCACCAACCC TGGCAGTGT	TA ACTGCCAGGA	555
CONSENSUS	GGMTGTCCTC ATGCCACCTG	CCACCAACCC TGGCAGTGT	TA ACTGCCAGGA	850
MOUSE DELTA DNA	AGGCTGGGG GGCCCTTTCT	GCAACCAAGA CCTGAACTAC	TGTACTCACC	893
HUMAN DELTA	AGGNTGGGG GGCCCTTTCT	GCAACCAAGA CCTGAACTAC	TGGCACACACC	605
CONSENSUS	AGGNTGGGG GGCCCTTTCT	GCAACCAAGA CCTGAACTAC	TGMACTCACC	900

FIG.13B



Serial No. 09/100,301
 Inventor(s): ISH-HOROWICZ ET AL. **783931 . 072202**
 Title: "ANTIBODIES TO VERTEBRATE DELTA
 PROTEINS AND FRAGMENTS"

MOUSE DELTA DNA	ATAAGCCGTG	CAGGAATGGA	GCCACCTGCA	CCAAACACGG	GCCAGGGGA	A	941	
HUMAN DELTA	ATAAGCCGTG	CAAGAATGGA	GCCACCTGCA	ACAAACACGG	GCCAGGGGA	A	655	
CONSENSUS	ATAAGCCGTG	CAGGAATGGA	GCCACCTGCA	ACAAACACGG	GCCAGGGGA	A	950	
MOUSE DELTA DNA	GCTACACATG	TTCCTT	GCC	GACCTGGGT	ATACA	GGTG	986	
HUMAN DELTA	GCTACACATG	GTCTTTGGCC	CCNC	CTGGGT	ACANAGGTG	CCACCTGCGA	705	
CONSENSUS	GCTACACATG	GTCTTTGGCC	CCNC	YKGGGT	AYANAGGTG	CCACCTGCGA	1000	
MOUSE DELTA DNA	AGCT	GGAA	GTAGATGAG	TG	TCTCTT	AGCC	1031	
HUMAN DELTA	AGCT	TTGGGGA	TTGGACGAGT	TG	TTGACCCC	AGCC	755	
CONSENSUS	AGCT	GGG	GTAGATGAGT	TG	TTGMYCCY	AGCC	1050	
MOUSE DELTA DNA	CGAGCTGCAC	GGACCTT	G	AGGACACCTT	CTCTT	TGCACC	1079	
HUMAN DELTA	CGAGCTTGAC	GGATCTTCGG	AGAACACCTA	CTCCTGT	TACC	TGCCC	805	
CONSENSUS	CGAGCTKSAC	GGATCTTCGG	AGAACACCTA	CTC	GTGYACC	TGCCC	1100	
MOUSE DELTA DNA	GCTTCTATGG	CAAGGTCGT	GACG	TGAGG	CCATGACCTG	TG	1129	
HUMAN DELTA	GCTTCAACGG	CAAAATCTGT	GAAT	TGAGT	CCATGACCTG	TG	855	
CONSENSUS	GCTTCTAYGG	CAARRTCGT	GARY	TGAGYG	CCATGACCTG	TG	1150	
MOUSE DELTA DNA	CCTTGCTTCA	ATGGAGGACG	ATG	TTCAGAT	AA	GGCTACAC	1179	
HUMAN DELTA	CCTTGCTTTA	ACGGGGGTCC	GTG	CTCAGAC	AG	GGGTACAG	905	
CONSENSUS	CCTTGCTT	AYGGRGCG	RTG	MTCA	ARCC	GGG	1200	
MOUSE DELTA DNA	CTGCCAT	TGC	CCC	TGGCT	TCT	CAACTGTGAG	1229	
HUMAN DELTA	CTGCCCG	TGC	CCC	TGGCT	ACT	CAACTGTGAG	955	
CONSENSUS	CTGCC	YTG	CCC	TGGCT	ACT	CAACTGTGAG	1250	
MOUSE DELTA DNA	ATCTCTGCCG	CTCTTCCCCT	TGTTCTAACG	GTGCCAAGTC	TGTG	GACCTC	1279	
HUMAN DELTA	ACTACTGCAG	CTCTTCACCC	TGTTCTAACG	GTGCCAAGTC	TGTG	GACCTC	1005	
CONSENSUS	AYY	WCTGCRG	CTCTTC	GGCTT	CAACTGTGAG	AAGAARATKG	1300	
MOUSE DELTA DNA	GGCAACTCTT	ACCTGTGCCG	CTGCCAGGT	GGCTTCTCG	GGAGGT	ACTG	1329	
HUMAN DELTA	GGTGATGCC	ACCTGTGCCG	CTGCCAGGC	GGCTTCTCG	GGAGG	ACTG	1055	
CONSENSUS	GGY	RAYKCYT	ACCTGTGCCG	CTGCCAGGC	GGCTTCTCG	GGAGG	ACTG	1350
MOUSE DELTA DNA	CGAGGACAAT	GTGGATGACT	GT	CCCTCCTC	CCC	GTG	1379	
HUMAN DELTA	TGAGGACAAC	GTGGACCACT	GT	CCCTCCTC	CCC	GTG	1105	
CONSENSUS	YGA	SGACAAY	GTGG	YGACY	GTG	CCCTCCTC	CCC	1400

FIG.13C CONSENSUS



Serial No.: 09/700,551
 Inventor(s): ISH-HOROWICZ ET AL. **INT 7833931 . 0722202**
 Title: "ANTIBODIES TO VERTEBRATE DELTA
 PROTEINS AND FRAGMENTS"

MOUSE DELTA DNA	CCTGCCGGGA	CAGTGTGAAC	GACTTCTCCT	GTACCTGCC	ACCTGGCTAC	1429	
HUMAN DELTA	CCTGCCGGGA	TGGCGTGAAC	GACTTCTCCT	GCACCTGCC	GCCTGGCTAC	1155	
CONSENSUS	CCTGCCGGGA	YRGYGTGAAC	GACTTGTCT	GYACCTGCC	RCCYGGCTAC	1450	
MOUSE DELTA DNA	ACGGGCAAGA	ACTGCAGGCG	CCCTG	CAGC	AGGTGTAGC	1479	
HUMAN DELTA	ACGGGCAGGA	ACTGCAGTGC	CCCCGCCAGC	AGGTGGAGC	ACGCACCCCTG	1205	
CONSENSUS	ACGGGCARGA	ACTGCAGYGC	CCCMYCAGC	AGGTQYAGC	ANGCACCCCTG	1500	
MOUSE DELTA DNA	CCATTAATGGG	GCCACCTGCC	ACCAGAGGGG	CCAGGGCTAC	ATGTGTGAGT	1529	
HUMAN DELTA	CCACAATGGG	GCCACCTGCC	ACCAGAGGGG	CCACCGCTAT	TTGTGCGAGT	1255	
CONSENSUS	CCAYAATGGG	GCCACCTGCC	ACSAAGAGGGG	CCASCGCTAY	WTGTGAGT	1550	
MOUSE DELTA DNA	GCGCCCAAGG	CTATGGGCC	CCCAACTGCC	AGTTCTGCT	CCCTGAGCC	1578	
HUMAN DELTA	GTGCCCCAAG	CTACGGGGGT	CCCAACTGCC	ANTTCTGCT	CCCGGAAACT	1305	
CONSENSUS	GYGCCRRRG	CTAYGGSGY	CCCAACTGCC	ANTTCTGCT	CCCYGAACRY	1600	
MOUSE DELTA DNA	-ACCAACAGG	GCCTCATGGTC	CTGG	ACCTC	AGTGAGAGGC	1625	
HUMAN DELTA	GCCCCCCCCG	CCCCACGGTG	GTGGAAACTC	CCCTAAAAAA	ACCTAAAAGG	1355	
CONSENSUS	GMCCMCCMGG	SCCCAYGGTC	GTGGAAACTC	MSYKARARRM	AYMTARRACR	1650	
MOUSE DELTA DNA	GCCAGGGCGG	GCCC	TCCCC	TGGGTGCC	TGTGTGCC	1675	
HUMAN DELTA	GCCGGGGGGG	GCCC	ATCCCC	TGGGTGCC	TGTGCGCC	1405	
CONSENSUS	GCCRGGGSGG	GCCC	WTCCCC	TKGGTGCC	TGTGMGCC	1700	
MOUSE DELTA DNA	GTCCTCTG	TGCTGCTGG	CTGTGCTG	GTGGTGGTCT	GGCTCCGGCT	1725	
HUMAN DELTA	GTCCTCATGC	TGCTGCTGG	CTGTGCCG	GTGGTGGTCT	GGCTCCGGCT	1455	
CONSENSUS	GTCCTCTG	TGCTGCTGG	CTGTG	YGCT	GTGGTGGTCT	GGCTCCGGCT	1750
MOUSE DELTA DNA	GAAGCTACAG	AAACACCAAGC	CTCCATCTGA	ACCTGTGG	GGAGAGACAG	1775	
HUMAN DELTA	GAGGCTCCAG	AAGCACCGGC	CCCCATCGGA	CCCCCTGNGG	GGGGAGAGACGG	1505	
CONSENSUS	GARGCTRCAG	AACACCAORG	CYCCASCMGA	MCCCTGNSGG	GGRGAGACRG	1800	
MOUSE DELTA DNA	AAACCATGAA	CAACCTAGCC	AAITGCCAGC	GGAGAAGGA	CGTTTCTGTT	1825	
HUMAN DELTA	AGACCATGAA	CAACCTGGNC	AACTGCCAGC	GTGAGAAGGA	CATCTCAGTC	1555	
CONSENSUS	ARACCATGAA	CAACCTRGN	AAYTGCCAGC	GYGAGAAGGA	CRITYTCNGTY	1850	

FIG.13D

HUMAN DELTA	AGCATCATTC GGGCTACCCA GATCAAGAAC ACCAACAGA AGGGGACTT	1875
CONSENSUS	AGCATCATTC GGGNYACCCA GATCAAGAAC ACCAACAGA AGGGGACTT	1605
MOUSE DELTA DNA	TCACGGGAC CATGGAGCCA AGAAGAGCAG CTTAACGGTC CGATACCCCA	1900
HUMAN DELTA	CCACGGGAC CACAGGCGC AGAAGAAATGC CTTCAAGGCC CGCTACCCAG	1925
CONSENSUS	YCACGGGAC CAYRGNCCR ASAAGARYRG CTTAACGGYC CGMTACCOMR	1655
MOUSE DELTA DNA	CTGTGGACTA TAACCTCGTT CGACACCTCA AGGGAGATGA AGCCACCGTC	1950
HUMAN DELTA	NGTGGACTA TAACCTCGTG CAGGACCTCA AGGGTGAAGGA CACCGCCGTC	1975
CONSENSUS	NKGTGGACTA TAACCTCGTK CRRGACCTCA AGGGNGAYGA MRCCRCGCTC	1705
MOUSE DELTA DNA	AGGGATACAC ACAGCAAACG TGACACCAAG TGCGAGTCAC AGAGCTCTGC	2000
HUMAN DELTA	AGGGACCCGC ACAGCAAGCG TGACACCAAG TGNCAGCCCC AGGGCTCCCTC	2025
CONSENSUS	AGGGAYRCRC ACAGCAAFCG TGACACCAAG TGNCAGYCNIC AGGGCTCYKC	1755
MOUSE DELTA DNA	AGGAGAAAGAC AA GATCG CC CCAACA CTTA GGGGT GG CG AGAT	2050
HUMAN DELTA	AGGGGAGGAG AAGGGGACCC CGGACCCACA CTCAGGGGCT GGAGGAAGCA	2067
CONSENSUS	ACGRGARGAG AAGGGGATGS CGGACCMACA CTAGGGGCT GGAGGAAGMN	1805
MOUSE DELTA DNA	TCCTCACAGA AAAAGGCGAG AGTCT GTC TACTCTACT TCAAAGGAC	2100
HUMAN DELTA	TCTTGAAGA AAAAGGCGCG ACTTCCGGCT TGTTCAACTT TCAAAGACA	2113
CONSENSUS	TCYTGAGAG AAAAGGCORG ASTYGGGYY TRYTOWACTT TCAAARGACA	1855
MOUSE DELTA DNA	-ACCAACTAC CAGTCGGTGT ATGTTCTGTC TCCAGAA AGGATGAGTG	2150
HUMAN DELTA	ANCAANGTAC AAGTCGGTGT NCCTCATTTTC CGNAGGAGGA AGGNTGACTG	2160
CONSENSUS	ANCMANGTAC MAGTCGGTGT NYGTYMTKTC YGNAGRAGGA AGGNTGASTG	1905
MOUSE DELTA DNA	TGTTATA GC GACTGAGGT GTAAACATCGA AGCGATGTGG CAAAATTCCC	2200
HUMAN DELTA	CGTCATAGCA ANTTCAGGT GTAAANTGGN AG T TG ANNTT	2208
CONSENSUS	YGTYATAGCM RNYTGACCTN GTAARNITGGN AGCGATGTGG CAANNTTCCC	1945
MOUSE DELTA DNA	ATTCTCTCA AATAAAATTC CAAGGATATA GCCCCGATGA ATGCCTCTGA	2258
HUMAN DELTA	GGAAAGNNN- TC CCGGAT- TCCGNT- ITTC	1972
CONSENSUS	ATTCTCKSA AAKNNNATTC CMGGATATA GCYCCGNTGA ATGCCTKCTGA	2300



Serial No. 09/100,551
 Inventor(s): ISH-HOROWICZ ET AL
 Title: "ANTIBODIES TO VERTEBRATE DELTA
 PROTEINS AND FRAGMENTS"

MOUSE DELTA DNA	GAGAGGAAGG	GAGAGGAAAC	CCAGGGACTG	C	CC	GAGAA	CCAGGTTAG	2308	
HUMAN DELTA	-----	-----	-----	C	C	-----	-----	1981	
CONSENSUS	GAGAGGAAGG	GAGAGGAAAC	CCAGGGACTG	Y	T	KY	GAGAA	CCAGGTTAG	2350
MOUSE DELTA DNA	GCGAAGCTGG	TTCTCTCAGA	GTAGCAGAG	GCGCCCGACA	CTGCCAGCCT	2358			
HUMAN DELTA	-----	-----	-----	-----	-----	1981			
CONSENSUS	GCGAAGCTGG	TTCTCTCAGA	GTAGCAGAG	GCGCCCGACA	CTGCCAGCCT	2400			
MOUSE DELTA DNA	AGGCTTGCG	TGCCGCTGGA	CTGCCCTGCTG	GTGTTCCCA	TTGCACTATG	2408			
HUMAN DELTA	-----	-----	-----	-----	-----	1981			
CONSENSUS	AGGCTTGCG	TGCCGCTGGA	CTGCCCTGCTG	GTGTTCCCA	TTGCACTATG	2450			
MOUSE DELTA DNA	GACAGTTGCT	TTGAAGAGTA	TATATTAAA	TGGACGAGTG	ACTTGATTCA	2458			
HUMAN DELTA	-----	-----	-----	-----	-----	1981			
CONSENSUS	GACAGTTGCT	TTGAAGAGTA	TATATTAAA	TGGACGAGTG	ACTTGATTCA	2500			
MOUSE DELTA DNA	TATAGGAAGC	ACCCACTGCC	CACACGTCTA	TCTTGATTAA	CTATGAGCCA	2508			
HUMAN DELTA	-----	-----	-----	-----	-----	1981			
CONSENSUS	TATAGGAAGC	ACCCACTGCC	CACACGTCTA	TCTTGATTAA	CTATGAGCCA	2550			
MOUSE DELTA DNA	GTCTTCCTT	GAACTAGAAA	CACAACTGCC	TTTATTGTCC	TTTTGATAC	2558			
HUMAN DELTA	-----	-----	-----	-----	-----	1981			
CONSENSUS	GTCTTCCTT	GAACTAGAAA	CACAACTGCC	TTTATTGTCC	TTTTGATAC	2600			
MOUSE DELTA DNA	TGAGATGTGT	TTTTTTTTT	CCTAGACGGG	AAAAAGAAAA	CGTGTGTTAT	2608			
HUMAN DELTA	-----	-----	-----	-----	-----	1981			
CONSENSUS	TGAGATGTGT	TTTTTTTTT	CCTAGACGGG	AAAAAGAAAA	CGTGTGTTAT	2650			
MOUSE DELTA DNA	TTTTTGCGA	TTTGTAAAAA	TATTTTCAT	GATATCTGTA	AAGCTTGAGT	2658			
HUMAN DELTA	-----	-----	-----	-----	-----	1981			
CONSENSUS	TTTTTGCGA	TTTGTAAAAA	TATTTTCAT	GATATCTGTA	AAGCTTGAGT	2700			
MOUSE DELTA DNA	ATTTTGTGAC	GTTCATTTT	TTATAATTAA	AATTTGGTA	AATATGTACA	2708			
HUMAN DELTA	-----	-----	-----	-----	-----	1981			
CONSENSUS	ATTTTGTGAC	GTTCATTTT	TTATAATTAA	AATTTGGTA	AATATGTACA	2750			

FIG.13F



Serial No.: 09/100,951
Inventor(s): ISH-HOROWICZ ET AL
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"

MOUSE DELTA DNA	AAGGCACTTC GGGTCTATGT GACTATATT TTTTGTATAT AAATGTATTT	2758
HUMAN DELTA	-----	1981
CONSENSUS	AAGGCACTTC GGGTCTATGT GACTATATT TTTTGTATAT AAATGTATTT	2800
MOUSE DELTA DNA	ATGGAATATT GTGCAAATGT TATTTGAGTT TTTTACTGTT TTGTTAATGA	2808
HUMAN DELTA	-----	1981
CONSENSUS	ATGGAATATT GTGCAAATGT TATTTGAGTT TTTTACTGTT TTGTTAATGA	2850
MOUSE DELTA DNA	AGAAATTCA TTTAAAATA TTTTCCAAA ATAAATATAA TGAAC TACA	2857
HUMAN DELTA	-----	1981
CONSENSUS	AGAAATTCA TTTAAAATA TTTTCCAAA ATAAATATAA TGAAC TACA	2899

FIG.13G



Serial No.: 09/700,501
Inventor(s): ISH-HOROWICZ ET AL. 1023931 . 0722302
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"

GFTWPGTFSLIIIEALHTDSPD>	21
<u>DLATENPERLISR LATQRH I></u>	41
<u>TVGEEWSQDLHSSGRIDLK Y></u>	61
<u>SYRFVCDEHYYGEGCSVFCR></u>	81
<u>PRDDAFGHFTCGERGEKVCN></u>	101
<u>PGWKGPYCTEPICLPGCDEQ></u>	121
<u>HGFCDKPGECKCRVGVWOGRY></u>	141
<u>CDECIRYPGCLHGTCOOPWQ></u>	161
<u>CNCOEGWGGLFCNODLN YCT></u>	181
HHKPKCKNGATC*TNTGQG*	198
SYT*PSP*KNGGSLTDL*	213
<u>ENSYSCITCPPGFYKGKICELSAM></u>	235
<u>TCADGPCFNGGRCSDSPDGG></u>	255
<u>YSCRCPVGYSGFNCEKKIDY></u>	275
<u>CSSSPCSNGAKCVDLGDAYL></u>	295
<u>CRCOAGFSGRH CDDNVDDCA></u>	315
<u>SSPCANGGTCRDGVNDFSCT></u>	335
<u>CPPGYTGRNCSAPASRCEHA></u>	355
<u>PCHNGATCHERGHRY*CECA></u>	374
<u>RSYGGPNC*FLLPE*PPGP*></u>	391
<u>VV*LLLGA AVVVCVRLRLOKH></u>	412
<u>RPPADP*RGETETMNNL*></u>	428

FIG. 14A



Serial No. 09/700,901
Inventor(s): ISH-HOROWICZ ET AL. 2023021 . 072302
Title: "ANTIBODIES TO VERTEBRATE DELTA
PROTEINS AND FRAGMENTS"

<u>NCOREKD</u> <u>DISVSIIG</u> * <u>TOIKNTN</u> >	449
<u>KKADFHGDH</u> * <u>ADKNGFKARYP</u> *	469
<u>V D Y N L V O D L K G D D T A V R D A H S K R D T K</u> *	494
<u>O P O G S S G E E K G T P</u> * <u>P T L R</u> * <u>G G</u> *	514
<u>I</u> * <u>R K R P</u> * <u>S</u> * <u>S T</u> * <u>S K D</u> * <u>T</u> *	526
<u>C V I</u> * <u>E V</u> *	531

FIG. 14B